Manitoba
Agriculture
and Food

Guidelines For Estimating

Swine Farrow-Wean to 5 kg Costs

Based On 600 Sows, 13119 Pigs Sold

nformation Update

www.gov.mb.ca/agriculture/

Date: February, 2002

This publication is intended to provide a format and a set of guidelines for determining the cost of production for a swine farrow to 5kg enterprise. This operation is intended to represent the first stage of a three stage system. The costs listed in this budget are estimates and not figures obtained from an actual survey of the industry in Manitoba. Adjustments will be necessary when applying these figures to your enterprise.

The assumptions on which the costs are based are outlined in the supporting pages. These assumptions were arrived at using the breeding stock, management practices, and facilities seen in modern, well managed swine operations of comparable size in Manitoba. Productivity and performance assumptions are based on information collected by department specialists, feed companies and other organizations. Where individual herd productivity and performance levels differ from those listed, adjustments will be required.

Accurate, up to date, production and financial records are essential for the effective application of these guidelines to an individual operation. Without such information accurate cost of production projections cannot be determined.

The guideline can be useful for comparison purposes. Comparison of costs at different levels of production can be made with other farms, the farm over a period of time or comparing the plan with the actual results at the end of the planning period.

Farrow-Wean to 5 kg Pig Cost of Production

The following farrow wean cost of production budget is based on the assumption that all feed is purchased.

The budget also includes a land investment cost based on the assumption that 160 acres would be required for this size of operation, with 140 acres being rented out.

If developing a cost of production budget to include home mixed rations the following items should be added to the budget:

- additional equipment costs associated with a mix mill;
- additional bins for different ingredients;
- additional labour for feed preparation.

The rations illustrated in this budget are examples only.
Individual farm conditions should be taken into account when formulating the diets.
Producers need to know what the feed intakes of their animals are.
Please consult with a nutritionist for diet formulation suggestions.

The Manitoba pork production industry profile is changing and this budget was specifically designed to address the need of producers who may want to analyze the cost of starting up or switching to a farrow wean 5 kg operation. Several companies are offering contracts with varying levels of guarantees. Producers need to accurately calculate their costs before they can properly make a decision.

102-04167/

600 Sow Farrow-Wean to 5kg Cost of Production Summary
February, 2002

A. Operating Costs	$/Pig Sold	$/Sow	Total Cost	Your Cost
1. Feed Costs:				
1.01 Sow Lactation Ration	$3.15	68.89	41,325	
1.02 Sow Gestation Ration	8.16	178.46	107,051	
1.03 Boar Ration	0.51	11.15	6,691	
1.04 Creep Feed	1.27	27.77	16,661	
Total Feed Cost	**$13.09**	**$286.27**	**$171,728**	
2. Other Operating Costs:				
2.01 Veterinary Medicine & Supplies:	1.33	29.09	17,448	
2.02 Maintenance & Repairs	0.34	7.44	4,460	
2.03 Hydro & Propane	1.37	30.01	18,000	
2.04 Insurance	0.63	13.70	8,218	
2.05 Manure Costs	1.23	26.85	16,107	
2.06 Office Supplies	0.13	2.84	1,705	
2.07 Marketing & Transport.	0.10	2.19	1,312	
2.08 Sow Replacement	3.64	79.61	47,753	
2.09 Boar Replacement	0.99	21.63	12,972	
2.10 Property Tax	0.50	11.00	6,600	
Subtotal Operating Costs	23.35	510.63	306,303	
2.11 Interest on Operating Costs	0.30	6.52	3,911	
Total Operating Costs	**$23.65**	**$517.15**	**$310,214**	
B. Fixed Costs				
3. Depreciation:				
3.01 Buildings & Manure Storage	1.69	36.96	22,171	
3.02 Equipment	2.59	56.64	33,978	
Total Depreciation Cost	**$4.28**	**$93.60**	**$56,149**	
4. Investment:				
4.01 Land Cost	0.12	2.67	1,600	
4.02 Buildings & Manure Storage	0.81	17.62	10,567	
4.03 Equipment	0.63	13.87	8,317	
4.04 Breeding Herd	0.73	16.00	9,600	
Total Investment Cost	**$2.29**	**$50.16**	**$30,084**	
Total Fixed Costs	**$6.57**	**$143.76**	**$86,233**	
C. Labour				
Wages, benefits and hired manager	8.80	192.46	115,447	
Total Cost of Production	**$39.02**	**$853.37**	**$511,894**	

Break-Even Price	$/Pig	
Operating Cost	$23.65	
Operating & Labour Cost	$32.45	
Operating, Labour & Fixed Cost	$39.02	

Farrow to 5 kg Pig Production Costs

1. This input table outlines the production assumptions used.
2. Buildings and equipment are valued at new cost.
3. Manure haulage is contracted out.
4. Gilts are purchased for herd replacement.

Indicators of Productivity

Sows	**600**
Boars	**30**
Litters/Sow/Year	**2.35**
Average Weaning Age (days)	**20**
Average Born Alive per Litter	**10.90**
Percent Pre-Weaning Mortality	**12.0**
Percent Post-Weaning Culls	**3.0**

Herd Profile	**Total**	**/Sow**	**/Litter**	**%Mortality**
Sows	600			
Boars	30			
Litters	1,410	2.35		
Pigs Born Alive	15,369	25.62	10.90	
Pigs Died, Pre-Weaning	1,844	3.07	1.31	12.0
Pigs Weaned	13,525	22.54	9.59	
Pigs Culled	406	0.68	0.29	3.0
Weaner Pigs Sold	13,119	21.87	9.30	

Feed Requirements and Costs			**Purchased**	**Home-Mixed**
Dry Sow Ration	**2.3**	kg/day	**$244.00**	$0.00
Nursing Sow Ration	**6.0**	kg/day	**$244.00**	$0.00
Boar Ration	**2.5**	kg/day	**$244.00**	$0.00
Creep Feed	**1.0**	kg/pig	**$1,083.00**	$0.00

Labour

Total Hours per 7-day week	**185.0**	hours/week
Wage (includes benefits & hired manager)	**$12.00**	/hour

Sow Barn Capital Investment

						Your Cost
Buildings		**Sq.Ft. [1]**	**$/Sq.Ft.**	**Total**	**/Sow**	
Gestation		16,200	**$17.10**	$277,020	$461.70	
Farrowing		6,200	**$19.45**	120,594	$200.99	
Office & Loading		**200**	**$25.00**	5,000	$8.33	
Standby Generator				**25,000**	$41.67	
Feed Mill (building only)				**0**	$0.00	
Total Building Cost				**$427,614**	**$712.69**	
Equipment [1]						
Gestation			**$15.25**	$247,050	$411.75	
Farrowing			**$20.00**	$124,004	$206.67	
Fire Alarm System				**$3,000**	$5.00	
Feed Bins (4 bins)				**$4,000**	$6.67	
Ingredient Bins				**$0**	$0.00	
Total Equipment Cost				**$378,054**	**$630.09**	
Total Buildings and Equipment Cost				**$805,668**	**$1,342.78**	
Breeding Stock						
Value of Replacement Sow		$350	/sow	$210,000	$350.00	
Value of Replacement Boar		$1,000	/boar	$30,000	$50.00	
Total Breeding Stock Cost				**$240,000**	**$400.00**	
Land Value						
Land Investment	**20** acres @	**$500**		**$10,000**	**$16.67**	
Other Costs						
Site Preparation				**$30,000**	$50.00	
Manure Storage				**$28,000**	$46.67	
Total Other Costs				**$58,000**	**$96.67**	
Total Capital Investment				**$1,113,668**	**$1,856.11**	

[1] FOOTNOTE: The number of sqare feet allocated for buildings and equipment are approximations. Cost per sow for buildings and equipment will vary around the province.

FOOTNOTE: 1 sq.ft. = 0.0929 sq.m; 1 sq.m.= 10.764 sq.ft.; 1 ft.= 0.3048 m

Ration Ingredients & Costs

Ingredients	Price/tonne	Your Cost
Barley	$162	
Corn	$141	
Soybean Meal - 47 %	$300	
Canola Meal - 34%	$200	
Creep Premix	$850	
Sow Micro Premix	$2,550	
Canola Oil	$600	
Whey Powder	$720	
Herring Meal	$1,400	
Limestone	$70	
Dical (16% Ca-21% P)	$450	
Salt - 96%	$100	
L-Lysine HCL	$2,550	
Oats - Steam rolled	$400	
Processing Cost		
(Hydro,repairs/maintenance & insurance)	$3.25	
Percent Weight loss due to processing	1.25 %	
Labour Cost	$4.00	

Ration Formulas	Dry Sow (kg)	Nursing Sow (kg)	Boar Ration (kg)	Creep Ration (kg)
Barley	810.20	530.70	810.20	0.00
Corn	0.00	199.00	0.00	133.85
Soybean Meal - 47 %	0.00	117.00	0.00	129.31
Canola Meal - 34%	138.00	80.00	138.00	0.00
Creep Premix	0.00	0.00	0.00	34.03
Sow Micro Premix	5.00	5.00	5.00	0.00
Canola Oil	10.00	30.00	10.00	18.15
Whey Powder	0.00	0.00	0.00	124.77
Herring Meal	0.00	0.00	0.00	74.86
Limestone	16.50	15.00	16.50	0.00
Dical (16% Ca-21% P)	14.90	16.50	14.90	0.00
Salt - 96%	3.50	4.90	3.50	0.00
L-Lysine HCL	1.90	1.90	1.90	0.50
Oats - Steam rolled	0.00	0.00	0.00	484.53
TOTAL (kg)	1,000.00	1,000.00	1,000.00	1,000.00

Feed Requirement and Cost Summary

	Amount (kg)	Ingredient Price ($ /tonne)	Ration Cost ($ /tonne)	Your Cost
Dry Sow & Boar:				
Barley	810.2	$162.00	$131.25	
Canola Meal - 34%	138.0	$200.00	$27.60	
Sow Micro Premix	5.0	$2,550.00	$12.75	
Canola Oil	10.0	$600.00	$6.00	
Limestone	16.5	$70.00	$1.16	
Dical (16% Ca-21% P)	14.9	$450.00	$6.71	
Salt - 96%	3.5	$100.00	$0.35	
L-Lysine HCL	1.9	$2,550.00	$4.85	
Total Dry Sow	**1,000.0 kg**		**$190.67**	
Adjusted For Weight Loss		1.25 %	$193.05	
Plus Processing Cost		$3.25	$196.30	
Plus Labour Cost		$4.00	**$200.30**	
Nursing Sow:				
Barley	530.7	$162.00	$85.97	
Corn	199.0	$141.00	$28.06	
Soybean Meal - 47 %	117.0	$300.00	$35.10	
Canola Meal - 34%	80.0	$200.00	$16.00	
Sow Micro Premix	5.0	$2,550.00	$12.75	
Canola Oil	30.0	$600.00	$18.00	
Limestone	15.0	$70.00	$1.05	
Dical (16% Ca-21% P)	16.5	$450.00	$7.43	
Salt - 96%	4.9	$100.00	$0.49	
L-Lysine HCL	1.9	$2,550.00	$4.85	
Total Nursing Sow	**1,000.0 kg**		**$209.70**	
Adjusted For Weight Loss		1.25 %	$212.32	
Plus Processing Cost		$3.25	$215.57	
Plus Labour Cost		$4.00	**$219.57**	
Creep Ration:				
Corn	133.9	$141.00	$18.87	
Soybean Meal - 47 %	129.3	$300.00	$38.79	
Creep Premix	34.0	$850.00	$28.93	
Canola Oil	18.2	$600.00	$10.89	
Whey Powder	124.8	$720.00	$89.83	
Herring Meal	74.9	$1,400.00	$104.80	
L-Lysine HCL	0.5	$2,550.00	$1.28	
Oats - Steam rolled	484.5	$400.00	$193.81	
Total Creep	**1,000.0 kg**		**$487.20**	
Adjusted For Weight Loss		1.25 %	$493.29	
Plus Processing Cost		$3.25	$496.54	
Plus Labour Cost		$4.00	**$500.54**	

Production Cost Worksheet

A. Operating Costs			Your Cost
1. Feed Requirements and Costs			
1.01 Sow Lactation Ration			
	20	days average weaning age	
x	2.35	litters/sow/year	
=	47.0	days lactation	
x	6.0	kg ration/day	
x	$244.00	/tonne ration	
÷	1,000	kg/tonne	
÷	21.87	pigs/sow	
=	**$3.15**	**/pig sold**	
1.02 Sow Gestation Ration			
	365	days/year	
-	47.0	days lactation	
=	318.0	days gestation	
x	2.3	kg ration/day	
x	$244.00	/tonne ration	
÷	1,000	kg/tonne	
÷	21.87	pigs/sow	
=	**$8.16**	**/pig sold**	
1.03 Boar Ration			
	365	days	
x	2.5	kg ration/day	
x	$244.00	/tonne ration	
÷	1,000	kg/tonne	
x	30	boars	
÷	600	sows	
÷	21.87	pigs/sow	
=	**$0.51**	**/pig sold**	
1.04 Creep Feed			
	1.0	kg ration/pig	
x	$1,083.00	/tonne of creep feed	
÷	1,000	kg/tonne	
x	25.62	pigs born alive/sow/year	
÷	21.87	pigs/sow	
=	**$1.27**	**/pig sold**	

2. Other Operating Costs

2.01 Veterinary Medicine & Supplies

	$7.29	/sow professional services	
+	$21.83	/sow medication	
+	21.87	pigs/sow	
=	**$1.33**	**/pig sold**	

2.02 Maintenance & Repairs

	$1,342.78	/sow building & equipment cost	
x	0.55	% repair & maintenance	
+	21.87	pigs/sow	
=	**$0.34**	**/pig sold**	

2.03 Hydro & Propane

	$8,000	hydro	
+	$10,000	propane	
+	13,119	pigs marketed	
=	**$1.37**	**/pig sold**	

2.04 Insurance

	$805,668	buildings & equipment	
x	$0.46	/$100 capital	
+	100		
+	13,119	pigs marketed	
=	$0.28	/pig sold	
	$240,000	breeding stock	
+	$459,165	weaners	
x	$0.65	/$100 capital	
+	13,119	pigs marketed	
=	$0.35	/pig sold	
=	**$0.63**	**/pig sold**	

2.05 Manure Costs

Haulage	18.0	litres/sow/day	
x	$0.003	/litre	
x	365	days	
+	21.87	pigs/sow	
=	$0.90	/pig sold	
Odour control	$4,300	total costs	
÷	13,119	pigs marketed	
=	$0.33	/pig sold	
Total =	**$1.23**	**/pig sold**	

2.06 Office Supplies

	600	number of sows
x	$2.00	fixed rate/sow
+	$500	minimum cost
=	$1,700	total
÷	600	sows
÷	21.87	pigs/sow
=	**$0.13**	**/pig sold**

2.07 Marketing & Transportation

	$0.10	**/pig sold**

2.08 Sow Replacement

	180.0	kg/sow (cull weight)
x	$84.00	/100 kg live
=	$151.20	/sow value of cull
	$350.00	/sow value of replacement
-	$151.20	/sow value of cull
=	$198.80	net replacement cost
x	40.00	% sow culling rate
÷	21.87	pigs/sow
=	**$3.64**	**/pig sold**

2.09 Boar Replacement

	225.0	kg/boar (cull weight)
x	$60.00	/100 kg live
=	$135.00	/boar value of cull
	$1,000.00	/boar value of replacement
-	$135.00	/boar value of cull
=	$865.00	net replacement cost
x	50.00	% boar culling rate
x	30	number of boars
÷	600	number of sows
÷	21.87	pigs/sow
=	**$0.99**	**/pig sold**

2.10 Property Taxes:

	$6,600	total taxes
÷	13,119	pigs marketed
=	**$0.50**	**/pig sold**

2.11 Interest on Operating Cost:

$$\frac{\text{Subtotal Operating Cost} \times \text{Farrow-to-Farrow Period}}{365} \times \frac{\%\ \text{Interest}}{2}$$

	365	days per year	
+	2.35	litters/sow	
=	155	days farrow-to-farrow	
	$23.35	subtotal operating	
x	155	days farrow to farrow	
÷	365	days per year	
x	6.0	% operating interest rate	
÷	2	average	
=	**$0.30**	**/pig sold**	

B. Fixed Costs

3. Depreciation: $\frac{\text{Original Cost - Salvage Value}}{\text{Useful Life}}$

3.01 Buildings

	$485,614	building cost (including earthen manure storage)	
-	$42,761	salvage value (building only)	
+	20	years useful life	
+	13,119	pigs marketed	
=	**$1.69**	**/pig sold**	

3.02 Equipment

	$378,054	equipment cost	
-	$37,805	salvage value	
+	10	years useful life	
+	13,119	pigs marketed	
=	**$2.59**	**/pig sold**	

4. Investment:

$$\frac{\text{(Original Cost + Salvage Value)}}{2} \times \text{Investment Rate}$$

4.01 Land Cost

	$10,000	land investment	
+	$30,000	site preparation	
x	4.0	% investment rate	
+	13,119	pigs marketed	
=	**$0.12**	**/pig sold**	

4.02 Buildings

	$485,614	building cost (including earthen manure storage)	
+	$42,761	salvage value (building only)	
+	2	average	
x	4.0	% investment rate	
+	13,119	pigs marketed	
=	**$0.81**	**/pig sold**	

4.03 Equipment

	$378,054	equipment cost	
+	$37,805	salvage value	
+	2	average	
x	4.0	% investment rate	
+	13,119	pigs marketed	
=	**$0.63**	**/pig sold**	

4.04 Breeding Stock

	$240,000	value of breeding stock	
x	4.0	% investment rate	
+	13,119	pigs marketed	
=	**$0.73**	**/pig sold**	

C. Labour

	185.0	hours/week	
x	52	weeks/year	
x	$12.00	/hour	
+	600	sows	
+	21.87	pigs/sow	
=	**$8.80**	**/pig sold**	

Summary of Purchased Feeds Used

Number of Sows	**600**
Total Pigs Fed	**13,525**

	Total per Year (tonnes)	Total per Month (tonnes)	Total per Pig (kgs)	Total per Pig (lbs)
Dry Sow	438.84	36.57	32.45	71.53
Lactating Sow	169.20	14.10	12.51	27.58
Boar	27.38	2.28	2.02	4.46
Creep	13.53	1.13	1.00	2.20
Total	**648.94**	**17.51**	**47.98**	**105.78**

Summary of Home Feed Ingredients Used

	Total per Year (tonnes)	Total per Month (tonnes)	Total per Pig (kgs)	Total per Pig (lbs)
Barley	0.00	0.00	0.00	0.00
Corn	0.00	0.00	0.00	0.00
Soybean Meal - 47 %	0.00	0.00	0.00	0.00
Canola Meal - 34%	0.00	0.00	0.00	0.00
Creep Premix	0.00	0.00	0.00	0.00
Sow Micro Premix	0.00	0.00	0.00	0.00
Canola Oil	0.00	0.00	0.00	0.00
Whey Powder	0.00	0.00	0.00	0.00
Herring Meal	0.00	0.00	0.00	0.00
Limestone	0.00	0.00	0.00	0.00
Dical (16% Ca-21% P	0.00	0.00	0.00	0.00
Salt - 96%	0.00	0.00	0.00	0.00
L-Lysine HCL	0.00	0.00	0.00	0.00
Oats - Steam rolled	0.00	0.00	0.00	0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**
Total	**648.94**	**17.51**	**47.98**	**105.78**

For further information contact your local Manitoba Agriculture and Food office.

Prepared by:
Peter Blawat — Farm Management Specialist
Ian Seddon — Swine Specialist
Normand Mabon — Farm Management Specialist
John Maltman — Swine Specialist